

Attorney's Docket No.: 34874-093 / 2004P00135US

**Amendments to the Claims:**

This listing of claims replaces all prior listings of claims:

1. (Previously Presented) A method of executing a query on a data repository, the method comprising:
  - receiving a query for execution on data in the data repository;
  - generating an estimate of a number of results of the query;
  - defining a subset of data in the data repository;
  - determining whether to execute the query on the subset of the data, the query to be executed on the subset of the data if the estimate of the number of results of the query indicates that executing the query on the subset of the data is estimated to return a number of results greater than a threshold number;
  - if the query is to be executed on the subset of the data, executing the query on the subset of the data to generate a partial set of results, otherwise executing the query on the data repository to generate a complete set of results; and
  - providing query results.
2. (Original) A method in accordance with claim 1, wherein providing query results comprises making the query results available to an application program.
3. (Original) A method in accordance with claim 2, further comprising:
  - the application program providing query results to a user interface.
4. (Canceled)
5. (Original) A method in accordance with claim 1, wherein determining whether to execute the query on the subset of the data comprises estimating whether executing the query on the subset of the data would generate a desired number of results, the method further comprising:
  - receiving a value representing the desired number of results.

Attorney's Docket No.: 34874-093 / 2004P00135US

6. (Currently Amended) A method in accordance with claim 1, wherein:  
 the method further comprises receiving a value representing a desired number of results;  
 the query is to be executed on the subset of the data if the estimate of the number of  
 results of the query is greater than a weighted subset estimate generated in accordance with  
 the following estimation function:

$$R * \frac{N}{stripeSize} * F, \text{ where } R \text{ is the number of results desired, } N \text{ is the total number of}$$

possible results,  $F$  is a safety factor ~~real-number~~, and  $stripeSize$  is the size of the subset of the  
 data; and

determining whether to execute the query on the subset of the data comprises:  
 generating the weighted subset estimate; and  
 determining whether the estimate of the number of results of the query is greater than the  
 weighted subset estimate.

7. (Previously Presented) A method in accordance with claim 1 further comprising:  
 in response to executing the query on a previous subset of the data, determining whether  
 a sufficient number of results have been generated; and  
 if a sufficient number of results have been generated, defining a next subset of the data in  
 the data repository and executing the query on the next subset of the data, otherwise  
 executing the query on the data repository.

8. (Previously Presented) A method in accordance with claim 1, wherein generating an  
 estimate of a number of results of the query is generated in accordance with the following  
 estimation functions:

$$est(NOT) = N - est(op),$$

$$est(AND) = \frac{est(op_1) * est(op_2)}{N}, \text{ and}$$

$$est(OR) = est(op_1) + est(op_2) - \frac{est(op_1) * est(op_2)}{N},$$

where  $op$  is an operand,  $est()$  returns an estimate of a number of results matching the  
 operator or operand in the parenthesis, and  $N$  is the total number of possible results.

Attorney's Docket No.: 34874-093 / 2004P00135US

9. (Previously Presented) An information management system, the system comprising:  
a data repository, wherein the data repository is configured to store data; and  
one or more processes for executing queries on the data repository, wherein the one or more processes are operative to:  
receive a query for execution on data in the data repository;  
generate an estimate of a number of results of the query;  
define a subset of data in the data repository;  
determine whether to execute the query on the subset of the data, the query to be executed on the subset of the data if the estimate of the number of results of the query indicates that executing the query on the subset of the data is estimated to return a number of results greater than a threshold number;  
if the query is to be executed on the subset of the data, execute the query on the subset of the data to generate a partial set of results, otherwise execute the query on the data repository to generate a complete set of results; and  
provide query results.

10. (Canceled)

11. (Original) An information management system in accordance with claim 9, wherein the operation of providing query results comprises making the query results available to an application program.

12. (Original) An information management system in accordance with claim 9, wherein the operation of determining whether to execute the query on the subset of the data comprises estimating whether executing the query on the subset of the data would generate a desired number of results, the one or more processes are further operative to:  
receive a value representing the desired number of results.

13. (Previously Presented) An information management system in accordance with claim 9, wherein the one or more processes are further operative to:

Attorney's Docket No.: 34874-093 / 2004P00135US

in response to executing the query on a previous subset of the data, determine whether a sufficient number of results have been generated; and

if a sufficient number of results have been generated, define a next subset of the data in the data repository and execute the query on the next subset of the data, otherwise execute the query on the data repository.

14. (Previously Presented) A computer program product, tangibly embodied on an information carrier, the computer program product comprising instructions operable to cause data processing apparatus to:

receive a query for execution on data in a data repository;

generate an estimate of a number of results of the query;

define a subset of data in the data repository;

determine whether to execute the query on the subset of the data, the query to be executed on the subset of the data if the estimate of the number of results of the query indicates that executing the query on the subset of the data is estimated to return a number of results greater than a threshold number;

if the query is to be executed on the subset of the data, execute the query on the subset of the data to generate a partial set of results, otherwise execute the query on the data repository to generate a complete set of results; and

provide query results.

15. (Original) A computer program product in accordance with claim 14, wherein the operation of providing query results comprises making the query results available to an application program.

16. (Canceled)

17. (Original) A computer program product in accordance with claim 14, wherein the operation of determining whether to execute the query on the subset of the data comprises estimating whether executing the query on the subset of the data would generate a desired number of results, the computer program product further comprising instructions operable to:

Attorney's Docket No.: 34874-093 / 2004P00135US

receive a value representing the desired number of results.

18. (Previously Presented) A computer program product in accordance with claim 14, wherein the computer program product further comprises instructions operable to:

in response to executing the query on a previous subset of the data, determine whether a sufficient number of results have been generated; and

if a sufficient number of results have been generated, define a next subset of the data in the data repository and execute the query on the next subset of the data, otherwise execute the query on the data repository.

19. (Canceled)

20. (Currently Amended) An information management system in accordance with claim 9, wherein the one or more processes are further operative to:

generate a weighted subset estimate of performing a query on a data repository in accordance with the following estimation function:

$R * \frac{N}{stripeSize} * F$ , where  $R$  is a number of results desired,  $N$  is the total number of possible results,  $F$  is a safety factor ~~real number~~, and  $stripeSize$  is the size of the subset of the data;

determine to execute the query on a subset of data in the data repository if the weighted subset estimate is greater than an estimate of the number of results of the query; and

determine to execute the query on the data repository if the estimate of the number of results of the query is greater than the weighted subset estimate.

21. (Previously Presented) An information management system in accordance with claim 9, wherein the one or more processes are further operative to:

generate an estimate of a number of results of a query in accordance with the following estimation functions:

$$est(NOT) = N - est(op),$$

Attorney's Docket No.: 34874-093 / 2004P00135US

$$est(AND) = \frac{est(op_1) * est(op_2)}{N}, \text{ and}$$

$$est(OR) = est(op_1) + est(op_2) - \frac{est(op_1) * est(op_2)}{N},$$

where *op* is an operand, *est()* returns an estimate of a number of results matching the operator or operand in the parenthesis, and *N* is the total number of possible results; determine to execute the query on a subset of data in the data repository if a weighted subset estimate is greater than the estimate of the number of results of the query; and determine to execute the query on the data repository if the estimate of the number of results of the query is greater than the weighted subset estimate.

22. (Currently Amended) A computer program product, tangibly embodied on an information carrier, the computer program product comprising instructions operable to cause data processing apparatus to:

generate a weighted subset estimate of performing a query on a data repository in accordance with the following estimation function:

$$R * \frac{N}{stripeSize} * F, \text{ where } R \text{ is a number of results desired, } N \text{ is the total number of}$$

possible results, *F* is a safety factor real-number, and *stripeSize* is the size of the subset of the data;

determine to execute the query on a subset of data in the data repository if the weighted subset estimate is greater than an estimate of the number of results of the query; [[and]]

determine to execute the query on the data repository if the estimate of the number of results of the query is greater than the weighted subset estimate;

execute the query on the subset or the data repository; and  
provide query results.

23. (Currently Amended) A computer program product, tangibly embodied on an information carrier, the computer program product comprising instructions operable to cause data processing apparatus to:

generate an estimate of a number of results of a query in accordance with the following estimation functions:

Attorney's Docket No.: 34874-093 / 2004P00135US

$$est(NOT) = N - est(op),$$

$$est(AND) = \frac{est(op_1) * est(op_2)}{N}, \text{ and}$$

$$est(OR) = est(op_1) + est(op_2) - \frac{est(op_1) * est(op_2)}{N},$$

where *op* is an operand, *est()* returns an estimate of a number of results matching the operator or operand in the parenthesis, and *N* is the total number of possible results; determine to execute the query on a subset of data in the data repository if a weighted subset estimate is greater than the estimate of the number of results of the query; [[and]] determine to execute the query on the data repository if the estimate of the number of results of the query is greater than the weighted subset estimate; execute the query on the subset or the data repository; and provide query results.